Renal Transplant

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Patient Care Review

Staff Experience

2 June 00

Transplant Facts

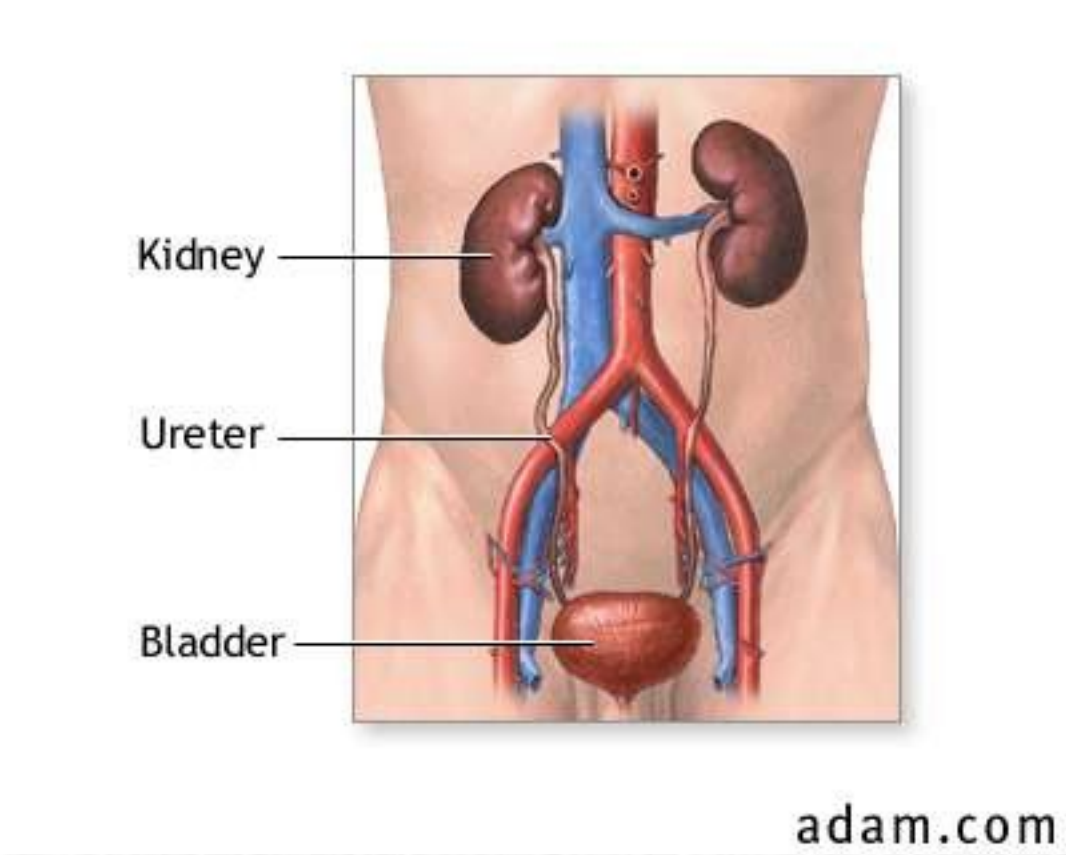
- 2nd most common transplant in U.S.
- >9000 cases/year in U.S.
- Easiest of all transplant surgeries

Transplant Facts

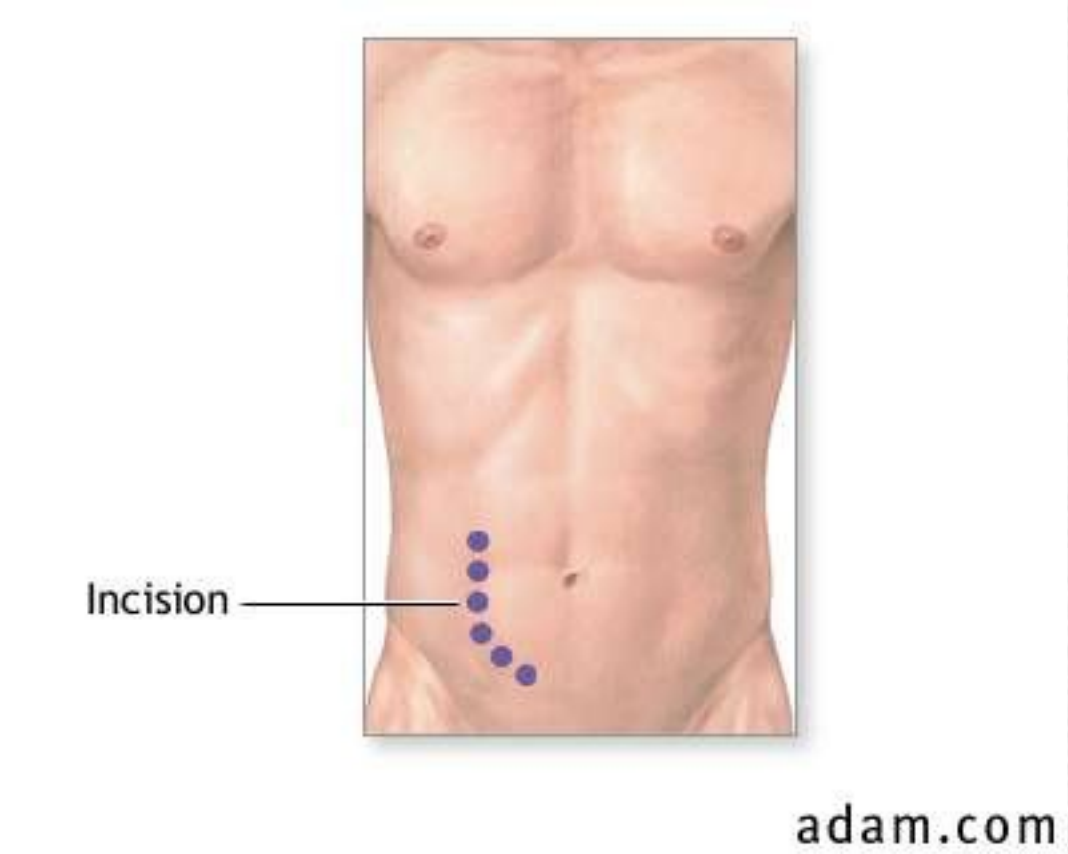
- **TYPES OF DONORS:**
  - Living (usually a blood relative)
  - Cadaver without kidney injury

- **TRANSPORTATION:**
  - Cooled saline solution for up to 48 h

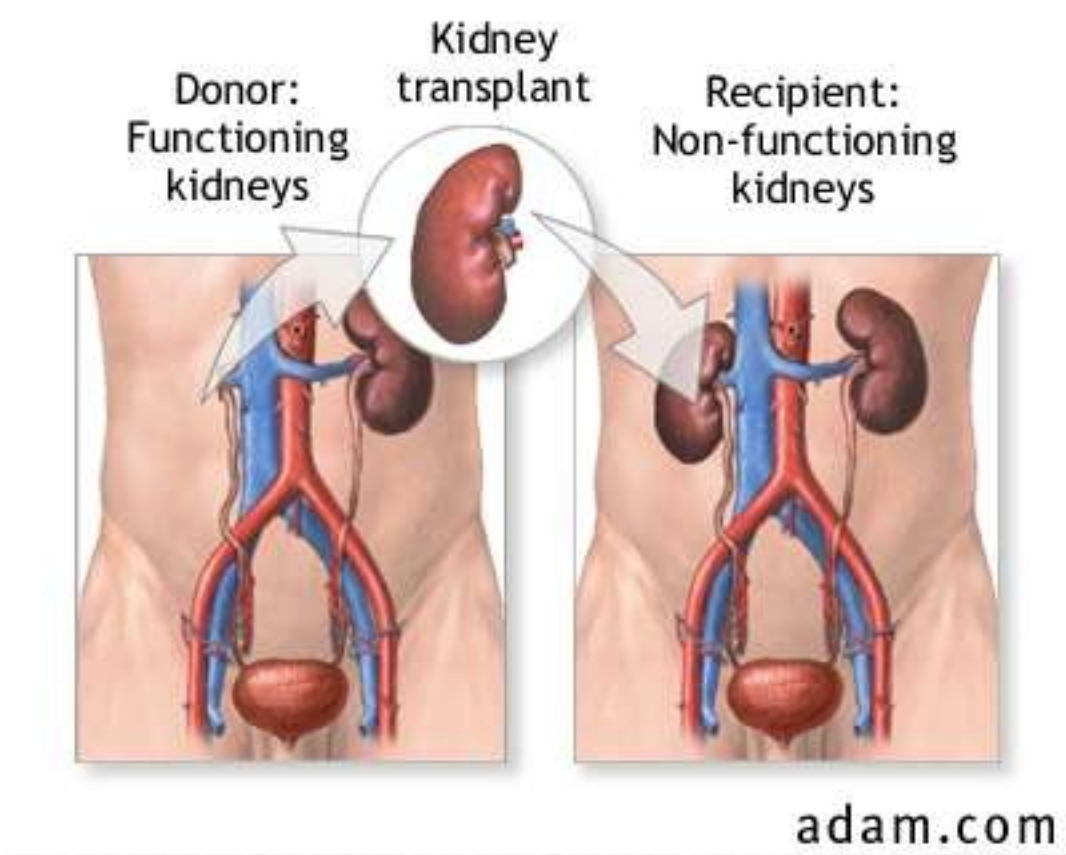
1: Human Anatomy



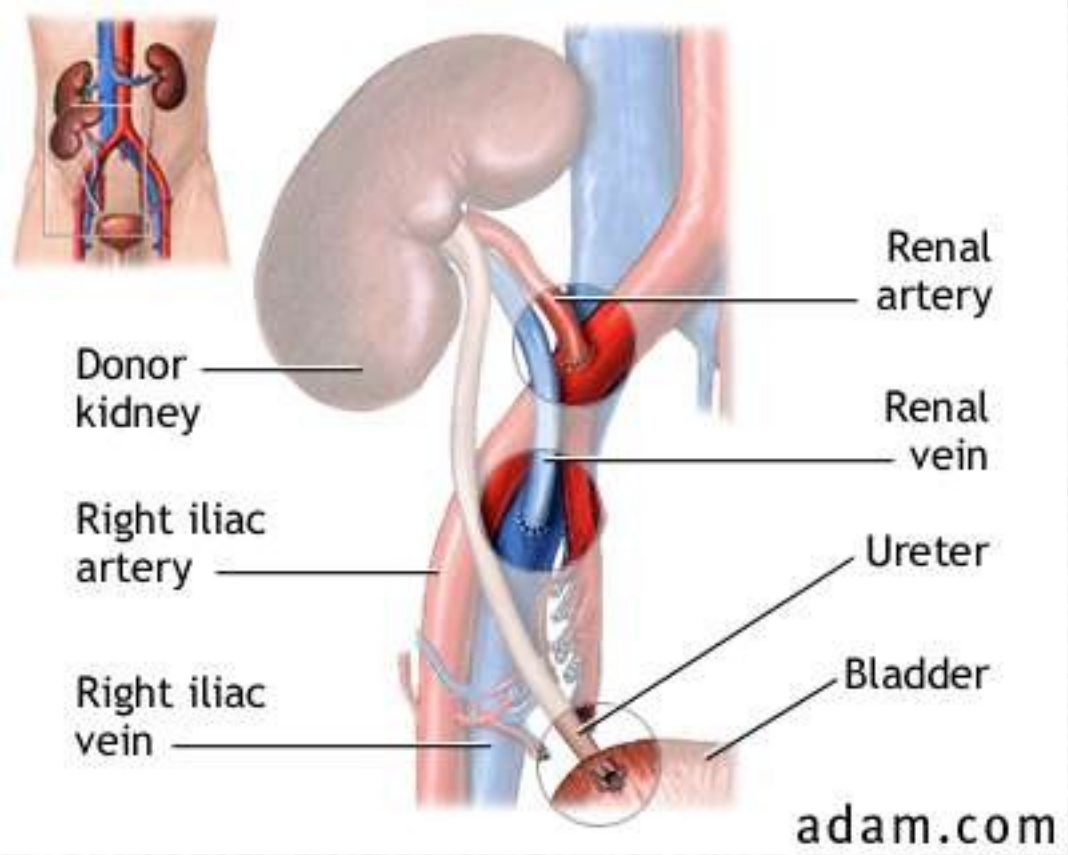
2: Incision



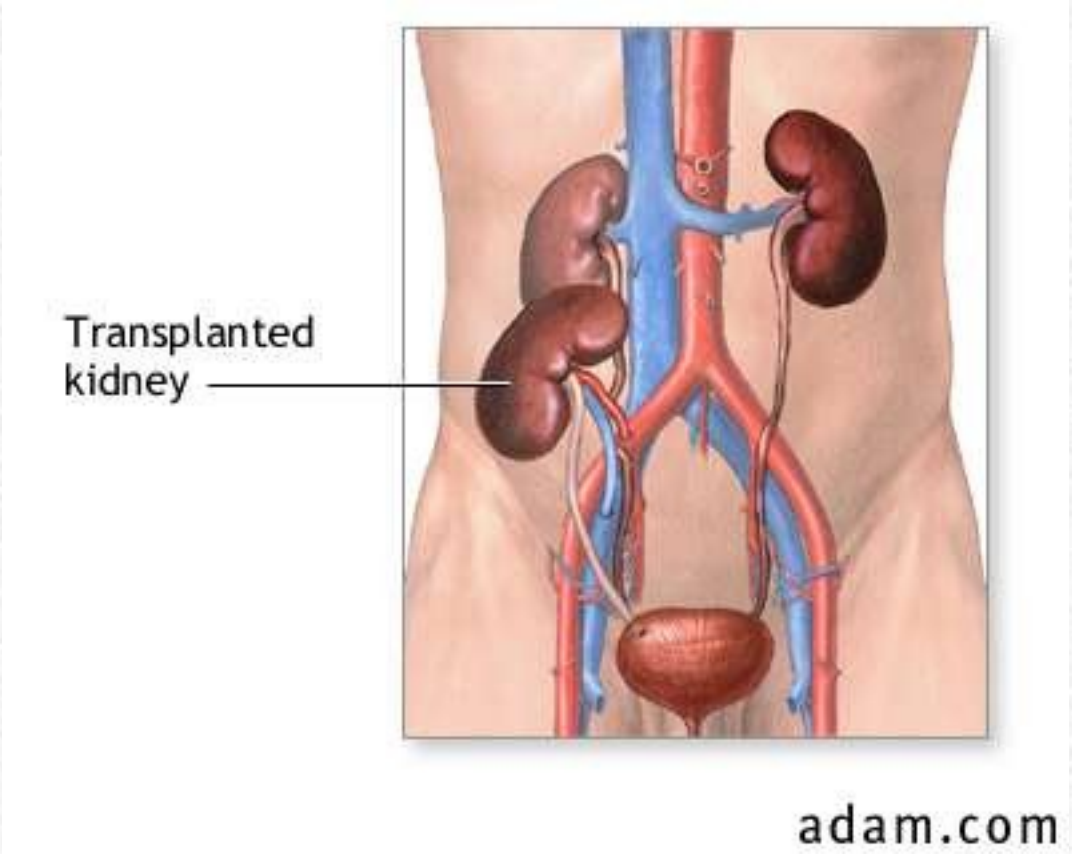
3: Donor to Recipient



4: Attachment



5: Recovery



Nutrition: Up to 1 Month Post Transplant

- **GOAL:** to provide adequate calories and protein to counteract the catabolic effects of surgery
- **Hypercatabolism due to:**

  high dose steroids + surgical stress + preexisting malnutrition
- Depends on function of transplanted kidney

Nutrition: Up to 1 Month Post Transplant

- 1.3-1.5 g protein/kg (ADA)
- May need Na, K and/or fluid restriction
- May need phosphorous supplementation
- Resume diabetic diet (if pt has DM)

Nutrition: After 1 Month Posttransplant

- **GOAL:** To manage the nutrition side effects of immunosuppressive therapy
- **COMMON DRUGS USED:**

  -prednisone

  -cyclosporine (CYA)

Side Effects of Drug Therapy

- **Prednisone**
  - -Increased appetite
  - -Breakdown of muscle tissue
  - -Na retention (may increase BP)
  - -Glucose intolerance (increase BS)
  - -Increase cholesterol & triglycerides
  - -Decreased Calcium and Phosphorus

Side Effects of Drug Therapy

- **Cyclosporine**
  - -Increased BP (limit Na)
  - -Increased BUN (restrict protein only if absolutely necessary)
  - -Increased K (may need K restriction)
  - -Diarrhea a major concern
- **Diet becomes more liberal as meds are weaned over time**

Nutritional Issues

- Weight gain
- Increased protein needs
- Elevated blood sugar
- Elevated cholesterol
- Elevated triglycerides
- Elevated blood pressure
- Elevated potassium
- Decreased Ca and PO4
- Fluid intake

Weight Gain Post-Op

- **Average Wt Gain:**

  10-20# 1st year + repeat 2nd year

- **Causes:**

  -Resolution of anorexia due to uremia

  - Appetite stimulation from meds

  - Freedom from restrictive renal diet

  - Sedentary lifestyle

Elevated Blood Sugar

- Steroid-induced diabetes
- If already diabetic, causes problem!!
- Watch weight gain

Increased Protein Needs

- To heal after surgery and to build/repair tissue
- 1.0-1.2 g/kg
- 75-80% High Biological Value (HBV)

  eggs, all meats, milk, cheese
- Grains, starch, legumes, vegetables: OK

Elevated Cholesterol & Triglycerides

- CVD is #1 long term problem in transplant patients
- Mitigate saturated fat intake
- Watch excessive weight gain
- Diet alone may be ineffective

Elevated Blood Pressure

- May exist prior to transplant
- Post transplant, may be caused by meds
- 2 g Na/day

Decreased Ca and PO4

- Pulled from bones due to meds/previous poor kidney function
- Milk and dairy consumption daily
- May need supplementation

Fluid Intake

- Adequate fluid
- > 2 L/day
- Put that kidney to work!

JF - Patient Profile

- 65 YO AA M
- **S/P** Renal Transplant JAN 2000
- **C/O** Chills, fever, LLQ pain, decreased appetite, one episode of N/V
- **DX:** Rejection episode, r/o Polyomavirus, CYA toxicity, Fluid collection
- **MED HX:** HTN, DM2, Gout

Polyoma Virus

- Recent discovery
- No real symptoms
- Looks like rejection
- Biopsy
- Treatment?? Reduce antirejection meds

JF - Patient Profile

- **Ht: 76”**
- **Wt: 268#** (121.8 kg)
- **UBW: 250#** (Prior to transplant)
- **%UBW: 107%**
- **DBW: 186-212#** MHWT (large frame)
- **%DBW: 126%**

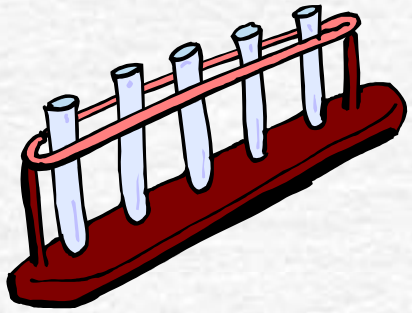
JF - Patient Profile

- **Diet at home:** Diabetic??
- **Diet order:** Regular
- **Estimated Caloric Needs:**

  2054-2568 kcals/day (20-25 kcals/kg ABW)
- **Estimated Protein Needs:**

  102-123 g/day (1.0-1.2 kcals/kg DBW)

Labs



- **BUN:** 40 mg/dl (22 May 00)
  30 mg/dl (26 May 00)
- **Cr:** 2.8 mg/dl (22 May 00)
  2.4 mg/dl (26 May 00)
- **Na:** 136 mg/dl (22 May 00)
  136 mg/dl (26 May 00)
- **K:** 6.1 mg/dl (22 May 00)
  4.7 mg/dl (26 May 00)
- **Alb:** 3.0 g/dl (22 May 00)
  2.4 g/dl (26 May 00)

Meds

- **Prednisone** (corticosteroid)
- **Cyclosporine** (immunosuppressant)
- **Levofloxacin** (antibiotic – E. coli)
- **Labetolol** (anti-HTN)
- **Felodipine** (anti-HTN)
- **Pravastatin** (anti-Hyperlipidemic)
- **Isordil** (antianginal)

Nutrition Diagnostic Statement

- Pt is currently not at risk for malnutrition as evidenced by good po intake and recent wt gain of 27#. Recent wt gain may be due to liberated diet s/p transplant and fluid retention.
- Pt low albumin may be due to inflammation, fever, s/p renal transplant with possibility of rejection, and may not be an indicator of nutrition status.
- Pt is at health risk due to non-compliance to diabetic diet as evidenced by recent wt gain, elevated blood glucose levels and need for repeated diet counselings.

Recommendations

- Consider changing diet order to 2000 ADA diet to promote good blood sugar control and mitigate wt gain.
- Encourage 3 L fluid intake daily to promote kidney function.
- Monitor I & Os.
- Continue to check wt daily.

Goal of Therapy

- To provide adequate calories, protein, and appropriate foods to maintain good nutritional status, manage the nutrition side effects of immunosuppressive therapy, mitigate wt gain, and promote good blood sugar control.

Outcomes of Care

- **Potential Health Outcomes:**
  - Keep functioning kidney
  - Prevent long term complications from
    CVD and DM2.
- **Potential Resources Saved:**
  - Money: Dialysis is expensive!!
  - Resources: Future hospitalizations

Questions???